UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JAN 0 4 2017

REPLY TO THE ATTENTION OF:

WN-15J

Nicole Blasing, Supervisor
North Central Regional Unit
Municipal Wastewater Section
Minnesota Pollution Control Agency
7678 College Road
Suite 105
Baxter, MN 56425

Re: U.S. Environmental Protection Agency Review of the Pre-public Notice NPDES Permit for the City of Delano Wastewater Treatment Facility, Delano, Minnesota, Permit No. MN0051250

Dear Ms. Blasing:

The U.S. Environmental Protection Agency (EPA) has reviewed the Pre Public Notice Draft National Pollutant Discharge Elimination System (NPDES) Permit, fact sheet and supporting documents for the City of Delano Wastewater Treatment Facility (the Facility) received on August 29, 2016. EPA has identified key issues that must be resolved prior to permit issuance.

The Facility discharges to an unnamed tributary to the South Fork of the Crow River, segment UAID 07010205-508 (segment), which MPCA has determined is exceeding the River Eutrophication Standards (RES) that apply to that segment of the river. (Fact Sheet, Lindon Memo for South Fork Crow River Watershed Phosphorus Effluent Limit Analysis) The RES that apply to the South Fork Crow River include a numeric standard for total phosphorus (TP) at 0.150 mg/L, and chlorophyll-a at 0.035 mg/L which apply for the 122-day season from June 1 to September 30. MPCA has measured an average of 0.322 mg/L TP and 0.101 chlorophyll-a in this segment of the river. Subsequently, MPCA has found that reasonable potential (RP) exists for all of the facilities contributing phosphorus to this segment of the South Fork Crow River to cause or contribute to the exceedance of the RES, including the Delano Wastewater Treatment Facility.

In light of these facts, we have the following comments for you on the pre-public notice draft permit:

1. ***Water Quality Based Effluent Limits That are Derived From and Comply With Minnesota's River Eutrophication Standards***. Section 301(b)(1)(C) of the CWA and 40 C.F.R. § 122.44(d)(1) require that NPDES permits include effluent limitations necessary to achieve water quality standards established under section 303(c) of the CWA. 40 C.F.R. § 122.44(d)(1) provides that NPDES permits shall include requirements necessary

to "[a]chieve water quality standards established under section 303 of the CWA." 40 C.F.R. § 122.44(d)(1)(vii) provides that, "[w]hen developing water quality based effluent limits under this paragraph the permitting authority shall ensure that: (A) The level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards." Where — as is the case here — water quality standards would be exceeded in the receiving stream regardless of the discharge, the WQBEL must be set equal to the water quality standard criteria for the pollutant at issue, unless a Total Maximum Daily Load (TMDL) is developed and approved by EPA in accordance with CWA Section 303(d). *See* enclosed excerpt from U.S. EPA's 1995 *Water Quality Guidance for the Great Lakes System: Supplementary Information Document* ("*SID*") (EPA-820-B-95-001). Where a TMDL has been approved, the water quality based effluent limits (WQBEL) may be set higher than the criteria at issue if the TMDL contains allocations for the other sources of pollutants to the water body, provided that the sum of all of the allocations will result in water quality standards being achieved. No TMDL has been approved for the water bodies at issue here. Consequently, in light of the finding by MPCA that the receiving segment of the South Fork of the Crow River is exceeding the RES, to be consistent with federal law, a WQBEL of 0.150 mg/L phosphorus, expressed as an average over the 122-day season of June 1 through September 30 must be included in the permit.

It may be possible for MPCA to translate a 0.150 mg/L seasonal phosphorus WQBEL into a monthly WQBEL, provided that MPCA utilizes technically sound, defensible statistical procedures for doing so, such as the method MPCA uses for toxics found in EPA's Technical Support Document for Water Quality-based Toxics Control. If MPCA were to follow the TSD approach, the seasonal limitation of 0.150 mg/L would be translated to a monthly limitation of 0.21 mg/L. MPCA, however, calculated a WQBEL for total phosphorus for this facility at 0.53 mg/L as a calendar month average for June – September during "Phase 2". (See the second comment regarding the meaning of Phase 2 or II). MPCA's explanation as to how it derived this limit is difficult to understand, but it appears to rely upon development of a waste load allocation that would apply to all of the facilities in the river segment. This waste load allocation is then modified in a manner that is not described at all in the memo other than to state that facility size and type are considered to distribute the waste load allocation to each facility and develop a facility specific "target" effluent concentration. MPCA then multiplied that target concentration by 2.1. Although EPA does not completely understand how MPCA arrived at its proposed WQBEL, it seems clear to EPA that the 0.53 mg/L monthly average limit for phosphorus is unsupported and exceeds what is required to meet the river eutrophication standards.

Further, MPCA did not fully describe the data and method it used to calculate the proposed monthly average limit of 0.53 mg/L in the "Lindon Memo" or the fact sheet that MPCA developed in support of the pre-public notice draft permit. If MPCA chooses to include a monthly limit, MPCA should explain the basis for how it developed that limit, in a manner that is easier for the public to understand, to ensure that the public can play a meaningful role in development and review of such limit. *See* 33 U.S.C. §§ 1251(e) and 1342(b)(3).

2. ***Uncertain and Unenforceable Effective Date for Total Phosphorus WQBEL.*** The Limits and Monitoring Table included in the draft permit contains four entries for total phosphorus. The first two entries require monitoring only and are identical except that one applies to "Phase 1" and the other to "Phase 2", and the "Phase 1" requirement requires monitoring year round while the "Phase 2" requirement only requires monitoring October – May. The other two entries contain limits. One of these is described as "Phase 2" and contains the effluent limit for total phosphorus at 0.53 mg/L that applies June – September. The last entry does not identify a "Phase" and contains the effluent limit based on MPCA's implementation of the total phosphorus waste load allocation calculated to protect Lake Pepin.

   We could not find a definition or description of Phase 1 or Phase 2. We found mention of Phase I and Phase II in the draft permit and fact sheet that discusses planned facility expansion, with Phase I completed in 2005 and Phase II planned to be completed in 2025. We found no explanation of why the facility would not need a limit until an expansion is completed in 2025.

   While the Permit includes two nearly identical compliance schedules (starting at paragraphs 5.13.35 and 6.7), neither schedule refers to any specific effluent limits for which the schedule is being used to grant the facility time to achieve, nor do they reference Phase 1 or 2. Further, none of the limits in the Limits and Monitoring table are specifically identified as "final" limits. If MPCA believes that a compliance schedule would be appropriate for any WQBEL included in the permit (as described above, EPA believes that a more stringent limit than 0.53 mg/L is necessary), the compliance schedule must be consistent with 40 CFR § 122.47, as explained in EPA's May 10, 2007, Memorandum entitled "Compliance Schedules for Water Quality-Based Effluent Limitations in NPDES Permits", which is available at https://www3.epa.gov/npdes/pubs/memo_complianceschedules_may07.pdf. The compliance schedule provisions included in the pre-public notice draft permit do not appear to be consistent with 40 CFR § 122.47. In order to allow EPA and the public to assess whether any compliance schedule that MPCA chooses to include in the permit is consistent with 40 CFR § 122.47, MPCA will need to provide information demonstrating that the schedule requires compliance as soon as possible. MPCA should also provide more information to explain why there are two schedules in the permit and which effluent limits or permit conditions are affected by the inclusion of the schedules in the permit.

We look forward to working with you as you proceed to public notice a draft of the permit. We will review that permit per the guidelines set forth in the Memorandum of Agreement between MPCA and EPA. When the draft Permit is prepared, please forward a copy to r5npdes@epa.gov. Please include the EPA permit number, the facility name, and the words "Draft Permit" in the message title. If you have any questions related to EPA's review of this permit, please contact Krista McKim at (312) 353-8270 or at mckim.krista@epa.gov.

Sincerely,

Jodie N. Ogle for DSI

D. Scott Ireland, Chief
Section 1, NPDES Programs Branch

Enclosures:

Excerpt from U.S. EPA's 1995 *Water Quality Guidance for the Great Lakes System: Supplementary Information Document* ("*SID*") (EPA-820-B-95-001)

EPA Memorandum, Compliance Schedules for Water Quality-Based Effluent Limitations in NPDES Permits, May 10, 2007.

cc: Molly Baumann, MPCA, electronically

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
WATER

May 10, 2007

MEMORANDUM

SUBJECT: Compliance Schedules for Water Quality-Based Effluent Limitations in NPDES Permits

FROM: James A. Hanlon, Director
Office of Wastewater Management
/s/

TO: Alexis Strauss, Director
Water Division
EPA Region 9

Recently, in discussions with Region 9, questions have been raised concerning the use of compliance schedules in National Pollutant Discharge Elimination System (NPDES) permits consistent with the Clean Water Act (CWA) and its implementing regulations at 40 C.F.R. § 122.47. The use of compliance schedules in NPDES permits is also the subject of ongoing litigation in California. The purpose of this memo is to provide a framework for the review of permits consistent with the CWA and its implementing regulations.

When may a permitting authority include a compliance schedule in a permit for the purpose of achieving a water quality-based effluent limitation?

In *In The Matter of Star-Kist Caribe, Inc.*, 3 E.A.D. 172, 175, 177 (1990), the EPA Administrator interpreted section 301(b)(1)(C) of the CWA to mean that 1) after July 1, 1977, permits must require immediate compliance with (*i.e.*, may not contain compliance schedules for) effluent limitations based on water quality standards adopted before July 1, 1977, and 2) compliance schedules are allowed for effluent limitations based on standards adopted after that date only if the State has clearly indicated in its water quality standards or implementing regulations that it intends to allow them.

What principles are applicable to assessing whether a compliance schedule for achieving a water quality-based effluent limitation is consistent with the CWA and its implementing regulations?

1. "When appropriate," NPDES permits may include "a schedule of compliance leading to compliance with CWA and regulations . . . as soon as possible, but not later than the applicable statutory deadline under the CWA." 40 C.F.R. § 122.47(a)(1). Compliance schedules that are longer than one year in duration must set forth interim requirements and dates for their achievement. 40 C.F.R. § 122.47(a)(3).

2. Any compliance schedule contained in an NPDES permit must be an "enforceable sequence of actions or operations leading to compliance with a [water quality-based] effluent limitation ["WQBEL"]" as required by the definition of "schedule of compliance" in section 502(17) of the CWA. *See also* 40 C.F.R. § 122.2 (definition of schedule of compliance).

3. Any compliance schedule contained in an NPDES permit must include an enforceable final effluent limitation and a date for its achievement that is within the timeframe allowed by the applicable State or federal law provision authorizing compliance schedules as required by CWA sections 301(b)(1)(C); 502(17); the Administrator's decision in *Star-Kist Caribe, Inc.* 3 E.A.D. 172, 175, 177-178 (1990); and EPA regulations at 40 C.F.R. §§ 122.2, 122.44(d) and 122.44(d)(1)(vii)(A).

4. Any compliance schedule that extends past the expiration date of a permit must include the final effluent limitations in the permit in order to ensure enforceability of the compliance schedule as required by CWA section 502(17) and 40 C.F.R. § 122.2 (definition of schedule of compliance).

5. In order to grant a compliance schedule in an NPDES permit, the permitting authority has to make a reasonable finding, adequately supported by the administrative record, that the compliance schedule "will lead[ ] to compliance with an effluent limitation . . . " "to meet water quality standards" by the end of the compliance schedule as required by sections 301(b)(1)(C) and 502(17) of the CWA. *See also* 40 C.F.R. §§ 122.2, 122.44(d)(1)(vii)(A).

6. In order to grant a compliance schedule in an NPDES permit, the permitting authority has to make a reasonable finding, adequately supported by the administrative record and described in the fact sheet (40 C.F.R. § 124.8), that a compliance schedule is "appropriate" and that compliance with the final WQBEL is required "as soon as possible." *See* 40 C.F.R. §§ 122.47(a), 122.47(a)(1).

7. In order to grant a compliance schedule in an NPDES permit, the permitting authority has to make a reasonable finding, adequately supported by the administrative record, that the discharger cannot immediately comply with the WQBEL upon the effective date of the permit. 40 C.F.R. §§ 122.47, 122.47(a)(1).

8. Factors relevant to whether a compliance schedule in a specific permit is "appropriate" under 40 C.F.R. § 122.47(a) include: how much time the discharger has already had to meet the WQBEL(s) under prior permits; the extent to which the

discharger has made good faith efforts to comply with the WQBELs and other requirements in its prior permit(s); whether there is any need for modifications to treatment facilities, operations or measures to meet the WQBELs and if so, how long would it take to implement the modifications to treatment, operations or other measures; or whether the discharger would be expected to use the same treatment facilities, operations or other measures to meet the WQBEL as it would have used to meet the WQBEL in its prior permit.

9. Factors relevant to a conclusion that a particular compliance schedule requires compliance with the WQBEL "as soon as possible," as required by 40 C.F.R. § 122.47(a)(1) include: consideration of the steps needed to modify or install treatment facilities, operations or other measures and the time those steps would take. The permitting authority should not simply presume that a compliance schedule be based on the maximum time period allowed by a State's authorizing provision.

10. A compliance schedule based solely on time needed to develop a Total Maximum Daily Load is not appropriate, consistent with EPA's letter of October 23, 2006, to Celeste Cantu, Executive Director of the California State Water Resources Control Board, in which EPA disapproved a provision of the Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries for California.

11. A compliance schedule based solely on time needed to develop a Use Attainability Analysis is also not appropriate, consistent with EPA's letter of February 20, 2007, to Doyle Childers, Director Missouri Department of Natural Resources, nor is a compliance schedule based solely on time needed to develop a site specific criterion, for the same reasons as set forth in the October 23, 2006, (referenced in Paragraph 10) and February 20, 2007 letters.

If you have any questions, please contact me at (202) 564-0748 or have your staff contact Linda Boornazian at (202) 564-0221.

United States Environmental Protection Agency
Office of Water 4301
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EPA

Water Quality Guidance for the Great Lakes System: Supplementary Information Document (SID)

with existing State or Tribal procedures for converting wasteload allocations into water quality-based effluent limitations. Similar conforming changes have also been made to procedure 4.C to address TMDLs, wasteload allocations, and preliminary wasteload allocations. In making this clarification, EPA is remaining consistent with its intent expressed in the proposal that WQBELs be consistent with calculated wasteload allocations.

By including a separate provision in the final guidance addressing procedures to be followed in deriving WQBELs in the absence of a TMDL, EPA has not made a substantive change from the approach contained in the proposal. As discussed above, the structure of the proposed guidance would have called for the development of a TMDL for the purpose of deriving wasteload allocations where the permitting authority determined reasonable potential existed. The final Guidance has simply "moved" those procedures into a new subsection, 5.F.2.a., of appendix F of the Guidance. This "move" is necessitated by the fact that, under the final Guidance, the actual development of a TMDL is not a prerequisite to the establishment of a wasteload allocation and permit limits.

Finally, it is important to note that, as discussed in section VIII.C of this document, the final Guidance does not, like the proposal, require wasteload allocations to be set equal to zero in cases where background concentrations of the pollutant in the receiving water exceed criteria or values (non-attained waters), and a multiple source TMDL has not been completed. As noted in section VIII.C of this document, EPA did not include this provision (high background provision) in the final Guidance because setting a wasteload allocation at zero as a default, in the absence of a TMDL, may not be appropriate in many situations. EPA recognizes that many factors need to be considered when background water quality concentrations exceed criteria or values. Furthermore, many commenters objected to a mandate of setting wasteload allocations equal to zero in non-attained waters unless a multiple source TMDL has been completed. Commenters pointed out that such a mandate would, in effect, force all point sources to achieve zero discharge of pollutants to non-attained waters.

Once EPA concluded that it was inappropriate to include the high background provision in the final Guidance, EPA then had to determine if there is an appropriate alternative to the high background provision. Commenters suggested a range of alternatives for setting wasteload allocations for discharges to non-attained waters in the absence of a multiple source TMDL. The suggested alternatives ranged from setting the wasteload allocation to the most stringent applicable criterion up to setting the wasteload allocation equal to the background concentration of the receiving stream. Others suggested that the wasteload allocation be set equal to the greater of the most stringent applicable criterion or the background concentration. EPA examined these suggested alternatives to determine which of them were permissible readings of the national program requirements under the CWA.

Upon review of the alternatives suggested by commenters, EPA notes that in the absence of a TMDL under 40 CFR 130.7, there are several reasonable interpretations of national program requirements under the CWA. One

reasonable interpretation of national program requirements is that in non-attained waters and in the absence of a TMDL under 130.7, the wasteload allocation for a pollutant for which the waterbody is in non-attainment, may be set equal to the most stringent criterion or value applicable to the waterbody (criteria end-of-pipe). The concept of a mixing zone to provide for dilution obviously is not relevant where the stream already exceeds the water quality criterion. EPA believes that this approach is consistent with existing regulatory provisions relating to water quality-based permitting, as well as the goals and objectives of the Clean Water Act to restore and maintain the biological integrity of U.S. waters.

EPA's existing NPDES regulations require that, where a wasteload allocation has not been prepared by a state and approved by EPA under 40 CFR 130.7, water quality-based effluent limits must insure that the "level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards." 40 CFR 122.44(d)(1)(vii)(A). Consistent with this provision, water quality based effluent limits set at the water quality criteria end-of-pipe are "derived from" the applicable state water quality standards. Moreover, the water quality that would "be achieved by point sources" will be no greater than the applicable numeric water quality criteria, since all point sources will be limited to discharging at no greater than the criteria end-of-pipe. EPA recognizes that, due to contributions from nonpoint sources and other media (e.g., air deposition of mercury or PCBs), the level of a pollutant in the receiving water from all sources combined may exceed numeric water quality criteria. EPA believes that limiting discharges from point sources to criteria end-of-pipe is nonetheless appropriate in these circumstances, as discussed below.

Numeric criteria are concentration-based standards designed to protect the aquatic ecosystem and humans from the adverse effects of pollutant discharges that would occur at levels above the criteria. Where the background level of the pollutant in the receiving water is greater than the criteria, the stream is in non-attainment and the aquatic environment or human health is adversely impacted. A point source discharging at criteria end-of-pipe in such situations, however, will contain a lower concentration of the pollutant than the receiving water, and therefore will not increase the pollutant concentration in the waterway. Such a discharger may, in fact, cause the ultimate pollutant concentration in the receiving water to decrease. Where the environmental effects of a pollutant on the aquatic ecosystem or on human health are associated with the concentration of the pollutant in the waterway, limiting discharges from point sources to criteria end-of-pipe in these circumstances should therefore result in no further degradation of the waterbody, and may in fact improve the water quality of the waterbody (special environmental considerations are present with regard to bioaccumulative [persistent] compounds, which are addressed separately under the final rule and discussed further below). The Agency therefore believes that establishing limits on point sources under these circumstances at criteria end-of-pipe is consistent with the underlying environmental objectives of the CWA.

The Agency recognizes that establishing limits at the criteria end-of-pipe will not alone result in the attainment of water quality standards in the receiving water for pollutants that are present mainly due to contributions from nonpoint sources and other media. In the absence of a TMDL addressing comprehensively such sources and corresponding controls on such sources, however, the water quality-based permitting process for point sources cannot achieve compliance with standards in such a waterbody. Even if the Agency were, for example, to prohibit discharges from point sources entirely under these circumstances, standards would not be attained in the waterbody. Indeed, where effects on aquatic life or human health are due to the concentration of the pollutant in the water column, allowing discharge at criteria end-of-pipe may actually improve water quality as compared with prohibiting any discharge at all since the former approach may ultimately reduce the pollutant concentration in the receiving water.

For the reasons explained above, EPA believes that, as an interim approach until a TMDL can be developed, establishing WQBELs to meet criteria end-of-pipe is a permissible permitting approach to address adverse environmental and health effects that are due to the concentration of pollutants in the water column in non-attained waters. Allowing such a discharge means that additional mass of a pollutant may be added to the waterbody and consideration of adverse effects due to increases in mass is well suited to the TMDL development process. In the interim before a TMDL has been established, EPA believes that any environmental concerns associated with such additions of mass can appropriately be addressed by the permitting authority through interpretation of the "toxics" narrative criterion contained in state water quality standards. For example, where an addition of mass is, in and of itself, of environmental concern because of the loadings of such pollutants in sediments, the permitting authority could interpret the narrative criterion to require more stringent limitations than criteria end-of-pipe in order to provide a requisite level of protection. Therefore, the permitting authority retains the ability to address circumstances where additions of mass alone may be of environmental concern.

While the Agency recognizes that the criteria end-of-pipe approach may not result in attainment of water quality standards in the near term on some waterbodies, the Agency views this as a reasonable interim approach to water quality-based permitting until a TMDL is developed for such waterbodies. EPA believes that the TMDL process is the appropriate means of effectively addressing ubiquitous pollutants in the Great Lakes basin where background levels exceed standards. Once a TMDL is established, point sources will have to have limits consistent with their wasteload allocation established under the TMDL (which could be lower or higher than criteria end-of-pipe). EPA recognizes, however, that TMDLs have not been established for many waterbodies where background exceeds criteria and that, given the technical difficulties and financial resources it takes to develop some TMDLs, the States will not be able to establish TMDLs everywhere they are needed in the immediate future. Under these circumstances, the Agency believes that setting wasteload allocations equal to criteria provides the best way of restricting additional discharges of pollutants from point sources in the period until a TMDL can be

developed.

EPA also examined the approach suggested by commenters to set wasteload allocations equal to background concentrations in non-attained waters in the absence of a TMDL (background end-of-pipe). EPA believes that setting limits at background for discharges to non-attained waters is not an approach that would be consistent with national program requirements under the CWA. EPA notes again that existing NPDES regulations require that, where a wasteload allocation has not been prepared by a State and approved by EPA under 40 CFR 130.7, water quality-based effluent limits must ensure that the "level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards." 40 CFR 122.44(d)(1)(vii)(A). In circumstances where a waterbody is in non-attainment for a particular pollutant, EPA believes that (with the exception of certain discharges of intake pollutants allowed under procedure 5.D and E) it would not be consistent with this provision to establish a WQBEL allowing discharges of the pollutant at levels exceeding the most stringent applicable water quality criterion. On its face, EPA believes that a WQBEL allowing discharges into a waterbody already exceeding such criteria would not ensure that the water quality achieved by point sources was either "derived from" or "complies with" applicable water quality standards. EPA also believes that such a permitting approach would be fundamentally at odds with the water quality-based permitting requirement contained in section 301(b)(1)(C) of the CWA, since such an approach would allow point sources to contribute to the excursion above water quality standards in the waterbody.

3. Consideration of Pollutants in Intake Water

a. Introduction

Appendix F, procedure 5.A-C, provides a means for permitting authorities to determine if a discharge causes, has the reasonable potential to cause, or contribute to an excursion above a State or Tribal numeric or narrative water quality criterion. These procedures require the permitting authority to establish a water quality-based effluent limitation (WQBEL) upon a determination that a pollutant is or may be discharged at sufficient levels to cause, have the reasonable potential to cause, or contribute to an excursion above any Tier I criterion or Tier II value.

The baseline procedures for conducting "reasonable potential" determinations in procedure 5.A-C do not provide special consideration for pollutants contained in a facility's intake water. Procedures 5.D and 5.E of appendix F of the final Guidance provide separate mechanisms for considering the presence of intake water pollutants in a facility's discharge when determining the need for WQBELs and in establishing such limits.

In some situations, the sole or primary origin of a pollutant in a discharge may be the intake water for a facility. For example, the origin of many pollutants in once through cooling water is the water body where the facility obtains the water rather than an industrial process or other activity